

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

**GYRODATA INCORPORATED,**

**Plaintiff,**

**V.**

**SCIENTIFIC DRILLING  
INTERNATIONAL, INC.,**

**Defendant.**

[illegible]

**Civil Action No. 6:20-cv-00566**

## JURY TRIAL DEMANDED

**PLAINTIFF GYRODATA INCORPORATED’S COMPLAINT FOR PATENT  
INFRINGEMENT**

Plaintiff Gyrodata Incorporated (“Gyrodata”) by and through its undersigned attorneys, files this Complaint for Patent Infringement against Scientific Drilling International, Inc. (“SDI”), and alleges as follows:

## NATURE OF THE ACTION

1. This action seeks legal and equitable relief against SDI's unlawful infringement of Gyrodata's United States Patent Nos. 10,316,639 (the "'639 Patent") and 10,329,896 (the "'896 Patent") (collectively, the "Patents-in-Suit") which generally relate to systems and methods for providing information related to the tortuosity of wellbore paths in oil and gas downhole drilling applications.

## PARTIES

2. Gyrodata Incorporated is a Delaware corporation with its principal place of business at 23000 N W Lake Dr., Houston, TX 77095.

3. On information and belief, SDI is a Texas corporation having corporate headquarters at 1100 Rankin Road, Houston, Texas 77073, and may be served with process through its registered agent Cogency Global Inc., located at 1601 Elm Street, Suite 4360, Dallas, TX 75201.

4. On information and belief, SDI has a regular and established place of business located at 325 Faudree Rd, Odessa, TX, 79765 (the Midland District Office).

### **JURISDICTION AND VENUE**

5. This is a civil action that arises under the Patent Laws of the United States, 35 U.S.C. § 1 *et seq.*, including, but not limited to, 35 U.S.C. §§ 271 and 281. The Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338.

6. The Court has personal jurisdiction over SDI because SDI is a resident of the State of Texas, is a Texas corporation with its principal place of business in the State of Texas, and continuously and systematically conducts business in the State of Texas and in this judicial district, and because this lawsuit arises from conduct of SDI that occurred in Texas. Exercising personal jurisdiction over SDI in this lawsuit comports with due process and traditional notions of fair play and substantial justice.

7. Venue is proper in this Court pursuant to 28 U.S.C. §§ 1391 and § 1400(b) because SDI is subject to personal jurisdiction in this district, has a regular and established place of business in this district (including at 325 Faudree Rd, Odessa, TX, 79765), and has committed and/or induced acts of infringement in this district.

### **FACTS**

8. Gyrodata is a market-leading innovator in the development and advancement of tortuosity logging and analysis in oil and gas downhole drilling operations.

9. By providing a high-resolution tortuosity logging service, Gyrodata can ensure that well operators are able to easily identify anomalies in the wellbore to manage drilling, completion, and production operations. Gyrodata's MicroGuide™ generates customized interpretations and analysis reports, including 3D visualizations of the wellbore shape, which helps to provide operators with a complete and in-depth depiction of the wellbore casing integrity.

10. Further, Gyrodata's MicroGuide can provide a detailed tortuosity and obstruction analysis to identify the optimal placement of artificial lift and other equipment (such as electrical submersible pumps and rod lift equipment). This service extends the life of the equipment and minimizes costly workovers.

11. Gyrodata has devoted substantial time, effort, and resources to the development and promotion of its tortuosity logging and analysis technology, and has filed multiple patent applications related to the technology leading to the granting of the Patents-in-Suit.

12. Gyrodata's MicroGuide practices one or more claims in each of the Patents-in-Suit, and Gyrodata identifies that MicroGuide is protected by the '639 and '896 Patents on its website. *See, e.g.,* <https://www.gyrodata.com/patents/>.

### **The Issuance and Ownership of the Patents-in-Suit**

13. On June 11, 2019, U.S. Patent No. 10,316,639, entitled "System And Method For Analyzing Wellbore Survey Data To Determine Tortuosity Of The Wellbore Using Displacements Of The Wellbore Path From Reference Lines" was duly and legally issued by the U.S. Patent and Trademark Office, listing inventors Jon Bang, Onyemelem Jegbefume, Adrian Guillermo Ledroz, and John Lionel Weston. A true and correct copy of the '639 Patent is attached hereto as Exhibit 1.

14. On June 25, 2019, U.S. Patent No. 10,329,896, entitled "System And Method For Analyzing Wellbore Survey Data To Determine Tortuosity Of The Wellbore Using Tortuosity

Parameter Values” was duly and legally issued by the U.S. Patent and Trademark Office, listing inventors Jon Bang, Onyemelem Jegbefume, Adrian Guillermo Ledroz, and John Lionel Weston. A true and correct copy of the ’896 Patent is attached hereto as Exhibit 2.

15. Plaintiff Gyrodata is the owner and assignee of the ’639 and ’896 Patents and possesses all rights, title, and interest in the Patents-in-Suit to sue for infringement.

**The Patents-in-Suit Solve Real-World Problems**

16. The Patents-in-Suit are directed to systems and methods for analyzing a wellbore path’s tortuosity based on wellbore survey data from gyroscopic data or magnetic instruments to avoid installing production equipment in portions of the path with high tortuosity. *See, e.g.*, ’639 Patent at 6:33-35. Tortuosity is the deviation of a wellbore path or trajectory from a smooth path, such as the predetermined plan for the wellbore path. ’639 Patent at 1:30-33. When there are large deviations of the wellbore path over short distances, the tortuosity is high, and this can “give rise to problems in setting casings in the portion of the wellbore, in the installation of production equipment (*e.g.*, electric submersible pumps or rod-driven mechanical pumps) in the portion of the wellbore, and/or passing production equipment through the portion of the wellbore.” *Id.* at 1:33-40. Information about the tortuosity of a wellbore is helpful to avoid installing production equipment in unacceptable portions of the wellbore, and to analyze the performance of different drilling methods in different formations. *Id.* at 3:33-39.

17. Prior to the inventions disclosed in the Patents-in-Suit, the existing systems “utilize[d] the measured dogleg of the wellbore,” but utilizing this type of information suffered from several drawbacks, including that “the results can lack sufficient detail,” that “the results can in general be noisy,” and that it could be difficult to upgrade “to meaningful dogleg values over longer intervals.” *Id.* at 3:61-4:2. The Patents-in-Suit solve these problems in the prior art.

18. The Patents-in-Suit describe one or more implementations of using tortuosity data for a wellbore that were not well understood, routine, or conventional in the field. For example, claims from the Patents-in-suit are directed to a particular use of plotted reference lines within a wellbore path and a particular method of using tangible, real-world data measured by a gyroscope, magnetic instruments, or combination thereof in order to more accurately calculate the position and orientation of the wellbore path for installation of equipment. Further, the data that is relied upon is based on a directional survey of a certain data density in order to support any tortuosity calculation.

19. The inventive concepts described in the Patents-in-Suit allow for determining quantification of tortuosity of a wellbore path that are not as affected by noise and are easier to use than prior techniques. *Id.* at 4:3-9. The quantification of the tortuosity of the wellbore path in these patents allows an increased ability to understand the formation with more detail, less noise, and easier ability to upgrade the data as opposed to dolog calculations. *See* '639 Patent at 3:55-4:2; '869 Patent at 3:55-4:2. Examples of wellbore survey data that may be used in conjunction with the inventions of the Patents-in-Suit include: "continuous gyroscopic survey data; gyroscopic survey data with a relatively small depth interval between successive surveys, for example, one foot; other survey data with sufficiently high spatial resolution along the wellbore (e.g., with sufficiently frequent or short depth intervals), for example, from inclinometers, accelerometers, measurement-while-drilling (MWD) magnetic instruments, inertial instruments." '639 Patent at 4:9-18.

20. By providing systems and methods to evaluate the tortuosity of a wellbore path, the Patents-in-Suit set out improved and previously unknown methods to solve the specific problem of setting tools and pumps in a tortuous downhole location with an increased ability to ensure a

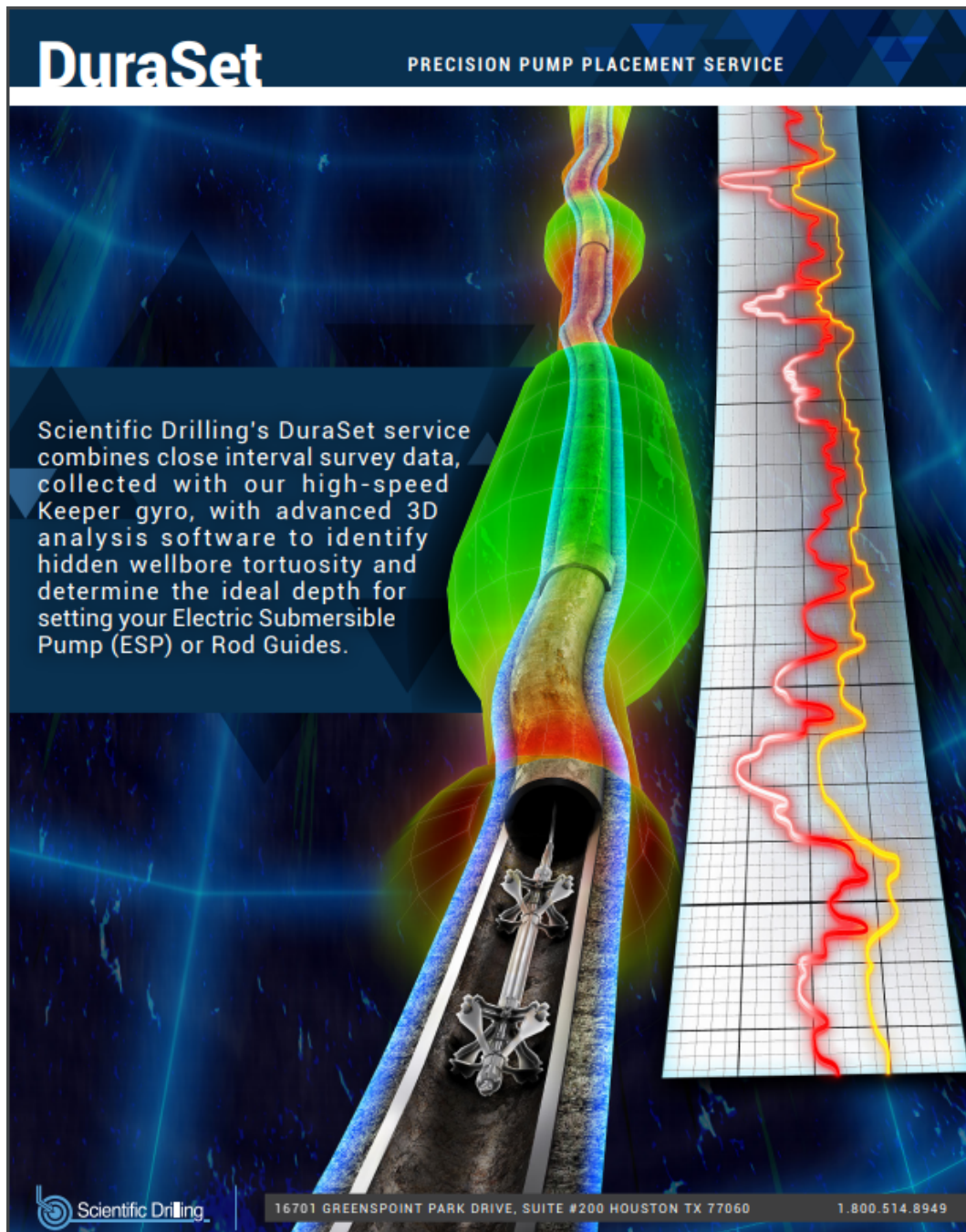
lower likelihood of failure. The claimed inventions present unconventional and methods that were not previously well-understood to allow for the determination of the effective diameter of the wellbore and “whether the model device can be placed at, or passed through, the portion of the wellbore is determined based on the amount of transversal (*e.g.*, bending) forces (F) that the model device would experience while the model device is within the portion of the wellbore, the amount of transversal (*e.g.*, bending) moment (M) that the model device would experience while the model device is within the portion of the wellbore, or both.” *See* ’639 Patent at 16:25-38; ’869 Patent at 16:24-37. Likewise, “[f]or each portion of the data (*e.g.*, for each position of the analysis window), a reference line in three-dimensional (‘3D’) space can be defined within the analysis window based on two or more survey stations within the analysis window.” ’639 Patent at 8:5-9; ’869 Patent at 8:5-9 and 20:27-32. The tortuosity or displacement information determined in the analysis window can then be used to decide “where to place one or more pumps in the wellbore.” ’639 Patent at 4:29-31; ’869 Patent at 4:29-31.

### **SDI’s Infringing Products**

21. On information and belief, SDI owns, operates, advertises, and/or controls the website <https://scientificdrilling.com/>, through which SDI advertises, sells, offers to sell, and provides, and/or educates customers about its products and services, including but not limited to SDI’s DuraSet branded precision pump placement service (the “Accused Products and Services”). Evidence obtained from SDI’s website regarding these products and services is provided in Exhibits 3-5.

22. SDI offers its customers the DuraSet service, which “combines close interval survey data, collected with our high-speed Keeper gyro, with advanced 3D analysis software to identify hidden wellbore tortuosity and determine the ideal depth for setting your Electric

Submersible Pump (ESP) or Rod Guides.” Exhibit 6 (DuraSet brochure) at 1; available at <https://scientificdrilling.com/assets/uploads/2017/06/DuraSet-PF.pdf>.



23. SDI's DuraSet obtains and uses close interval gyro survey log data with a log data density at as close as one-foot intervals. Exhibit 6 (DuraSet brochure) at 2. The "[c]lose interval log data ensures small positional changes in the well are properly measured and accounted for."



*Id.* Given the log data, the DuraSet software determines the wellbore tortuosity, “identifies relative ID [inner diameter] restrictions for a given downhole pump diameter and length,” and allows for the “easy selection of an ideal pump interval.” *Id.* at 1-2; <https://scientificdrilling.com/technology-services/cased-hole-services/casingtubing-investigation/>.

24. On information and belief, SDI was aware of Gyrodata’s MicroGuide™ prior to the filing of this complaint.

25. On information and belief, SDI was also aware of the applications that issued as the ’639 and ’896 Patents during their prosecution.

26. SDI’s awareness of Gyrodata’s MicroGuide™ as well the prosecution of the ’639 and ’896 Patents during their prosecution are at least two reasons evidencing the fact that SDI’s infringement has been and continues to be willful.

### **CAUSE OF ACTION**

#### **Patent Infringement of the ’639 Patent**

27. Gyrodata incorporates by reference and realleges Paragraphs 1-26 of its Complaint, as though fully set forth herein.

28. Gyrodata is the owner of all right, title, and interest in and to the ’639 Patent.

29. As the owner of the ’639 Patent, Gyrodata is authorized and has standing to bring legal action to enforce all rights arising under the ’639 Patent.

30. The ’639 Patent is presumed valid pursuant to 35 U.S.C. § 282.

31. SDI is not licensed to make, use, sell, offer to sell, or import any product or service that is covered by the claims of the ’639 Patent.

32. On information and belief, SDI, without authorization or license from Gyrodata, has infringed and will continue to infringe, either literally or under the doctrine of equivalents, claims of the ’639 Patent in violation of 35 U.S.C. § 271, by making, using, selling, offering to



sell, or imports the Accused Products and Services. Based upon public information, SDI has infringed and continues to infringe, with the Accused Products and Services, one or more claims of the '639 Patent, including at least Claim 1.

33. On information and belief, SDI has actual knowledge of the '639 Patent and actual knowledge that making, using, selling, or offering to sell the Accused Products and Services constitutes direct infringement of the '639 Patent, or has willfully blinded itself to the infringing nature of its activities, and yet continues its infringing activities.

34. On information and belief, SDI directs or instructs others to perform, or provides instructions or guidance to others to perform, tortuosity logging and downhole tool placement using or based on the Accused Products and Services.

35. On information and belief, SDI has intentionally induced and continues to induce infringement of one or more claims of the '639 Patent, and has contributed and continues to contribute to others' infringement of one or more claims of the '639 Patent, in this District and elsewhere in the United States, by its intentional acts which have successfully, among other things, encouraged, instructed, enabled, and otherwise caused SDI's customers to use the Accused Products and Services in an infringing manner.

36. Despite knowledge of the '639 Patent at least as early as the filing of this complaint, based on information and belief, SDI's infringement of the '639 Patent has been and will continue to be willful, deliberate, and intentional. Further, SDI continues to willfully encourage, instruct, enable, and otherwise cause its customers to use its Accused Products and Services in a manner which infringes the '639 Patent.

37. On information and belief, SDI specifically intends its customers to use its products and services in such a way that infringes the '639 Patent by providing and supporting the Accused

Products and Services and instructing its customers on how to use the data to place downhole tools, such as, but not limited to, electric submersible pumps.

38. As a result of SDI's infringement of the '639 Patent, Gyrodata has suffered and will continue to suffer irreparable harm for which there is no adequate remedy at law, unless SDI is permanently enjoined by this Court. Furthermore, the public interest would be served by issuance of an injunction.

39. As a result of SDI's infringing product and activities, Gyrodata has suffered and will continue to suffer damages in an amount to be determined at trial. Additionally, as a result of the willful and deliberate nature of SDI's infringing activities, Gyrodata is entitled to a trebling of its actual damages and is entitled to recover its attorneys' fees and costs incurred in prosecuting this action.

#### **Patent Infringement of the '896 Patent**

40. Gyrodata incorporates by reference and realleges Paragraphs 1-39 of its Complaint, as though fully set forth herein.

41. Gyrodata is the owner of all right, title, and interest in and to the '896 Patent.

42. As the owner of the '896 Patent, Gyrodata is authorized and has standing to bring legal action to enforce all rights arising under the '896 Patent.

43. The '896 Patent is presumed valid pursuant to 35 U.S.C. § 282.

44. SDI is not licensed to make, use, sell, offer to sell, or import any product or service that is covered by the claims of the '896 Patent.

45. On information and belief, SDI, without authorization or license from Gyrodata, has infringed and will continue to infringe, either literally or under the doctrine of equivalents, claims of the '896 Patent in violation of 35 U.S.C. § 271, by making, using, selling, offering to sell, or imports the Accused Products and Services. Based upon public information, SDI has

infringed and continues to infringe, with the Accused Products and Services, one or more claims of the '896 Patent, including at least Claim 1.

46. On information and belief, SDI has actual knowledge of the '896 Patent and actual knowledge that making, using, selling, or offering to sell the Accused Products and Services constitutes direct infringement of the '896 Patent, or has willfully blinded itself to the infringing nature of its activities, and yet continues its infringing activities.

47. On information and belief, SDI directs or instructs others to perform, or provides instructions or guidance to others to perform, tortuosity logging and downhole tool placement using or based on the Accused Products and Services.

48. On information and belief, SDI has intentionally induced and continues to induce infringement of one or more claims of the '896 Patent, and has contributed and continues to contribute to others' infringement of one or more claims of the '896 Patent, in this district and elsewhere in the United States, by its intentional acts which have successfully, among other things, encouraged, instructed, enabled, and otherwise caused SDI's customers to use the Accused Products and Services in an infringing manner.

49. Despite knowledge of the '896 Patent at least as early as the filing of this complaint, based on information and belief, SDI's infringement of the '896 Patent has been and will continue to be willful, deliberate, and intentional. Further, SDI continues to willfully encourage, instruct, enable, and otherwise cause its customers to use its Accused Products and Services in a manner which infringes the '896 Patent.

50. On information and belief, SDI specifically intends its customers to use its products and services in such a way that infringes the '896 Patent by providing and supporting the Accused

Products and Services and instructing its customers on how to use the data to place downhole tools, such as, but not limited to, electric submersible pumps.

51. As a result of SDI's infringement of the '896 Patent, Gyrodata has suffered and will continue to suffer irreparable harm for which there is no adequate remedy at law, unless SDI permanently enjoined by this Court. Furthermore, the public interest would be served by issuance of an injunction.

52. As a result of SDI's infringing product and activities, Gyrodata has suffered and will continue to suffer damages in an amount to be determined at trial. Additionally, as a result of the willful and deliberate nature of SDI's infringing activities, Gyrodata is entitled to a trebling of its actual damages and is entitled to recover its attorneys' fees and costs incurred in prosecuting this action.

### **JURY DEMAND**

53. Pursuant to Federal Rule of Civil Procedure 38(b), Gyrodata requests a trial by jury on all issues.

### **PRAYER**

54. For these reasons, Gyrodata asks for a judgment against SDI that includes the following relief:

- (A) A judgement that SDI has infringed and is infringing each of the Patents-in-Suit literally and/or under the doctrine of equivalents;
- (B) A permanent injunction enjoining SDI, its owners, affiliates, officers, directors, managers, agents, servants, employees, trainees, and all persons in active concert or participation with it, from continuing to infringe the each of the Patents-in-Suit, including, but not limited to, under 35 U.S.C. § 283;

- (C) An award of damages adequate to compensate Gyrodata for SDI's infringement of each of the Patents-in-Suit under 35 U.S.C. § 284;
- (E) A determination that SDI's infringement of the each of the Patents-in-Suit has been willful and deliberate;
- (F) A determination that this case is "exceptional" under 35 U.S.C. § 285, thereby entitling Gyrodata to an award of its reasonable attorneys' fees and costs incurred in prosecuting this action;
- (G) An award of treble damages based on the willful and deliberate nature of SDI's infringement;
- (I) An award of pre- and post-judgment interest on all damages computed;
- (J) An award of court costs; and
- (K) Such other relief as this Court deems fair, just, and appropriate.

Dated: June 26, 2020

Respectfully submitted,

/s/ Rick L. Rambo

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